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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/944,456	08/30/2001	Show-Way Yeh		8529

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Show-Way Yeh  
21845 Hermosa Ave.  
Cupertino, CA 95014

12/05/2003

EXAMINER

MULLINS, BURTON S

ART UNIT PAPER NUMBER

2834

DATE MAILED: 12/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/944,456

Applicant(s)

YEH, SHOW-WAY

Examiner

Burton S. Mullins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Specification***

1. The "Previous Arts" section does not discuss the relevancy of the listed patents. Such a list is appropriate for an information disclosure statement (form PTO-892), not the specification. The examiner further reminds applicant that the listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." The "Previous Arts" section should be deleted.

Applicant has apparently confused a PTO-892 "list" with several pages submitted 6 August 2003 describing various references. These pages have not been entered into the specification. The references have been considered, but will not be published on the face of any patent issuing from this application unless applicant submits a PTO-892.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-11 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Specifically, it is not disclosed in the specification how to make the claimed "thin

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motor". The figures show "conceptual" structures of various "elemental" thin motors. It is not clear if applicant means by this etched, micro-mechanical motors. Does applicant miniaturize known electric motors? How are the corresponding miniature transferring means made? Further, it is not clear how the subject matter of claims 8 and 11, with the stator comprising a magnet rod and the "mover" comprising a coil would be made and operated, since it is not clear how the moving coils would be powered, especially if they are micro-machined. How and by what means are these moving micro-coils energized? The specification merely says: "Alternatives include that each magnet rod 20X is fixed and the coil 10X is moveable..." (p.7, lines 19-20) No art has been applied to these claims pending clarification and/or amendment.

4. Claims 1, 7-8 and 10-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In claim 1, recitation "where the shortest dimension of each said movement generator is perpendicular to said plan" is new matter not originally described. In claim 7, recitation "whose two wire ends connect to said controller means via said plan" is new matter not originally described. Further, in claims 7-8 and 10-11, the magnet "compartment" was not originally described, but rather magnet "rods".

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5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, recitation “plan” is vague and indefinite because it is not clear what structural limitations, if any, belong to this term. The specification does not define or describe what a “plan” is. Applicant substituted the word for “surface”. For purposes of examination it will be assumed that “plan” means a “surface”.

Recitation “an actuator means on said where the rotating axis...” makes no sense.

Recitation “so that the movement...is transferred to and is integrated at said actuator” makes no sense. How is a movement “integrated at” something?

Recitation “and said thin motor is as thin as each said movement generator” is vague and indefinite because it is not clear if this means the thin motor, i.e., the entire device, has one thickness or plural thicknesses. Is applicant implying that the thin motor is as thick as the thickest generator?

In claim 5, “and a second a second coil” is indefinite; “and stop doing it” is vague and indefinite. What is “it”?

In claim 6, “and they are close” is indefinite. Does this refer to the generator, the stator and the mover? Or just the generator and stator? Or the generator and mover? Or the stator and mover? Recitation “said pair of said stator means” lacks antecedent basis.

Recitation “and stop doing it” is vague and indefinite.

In claims 7-11, “and stop [or stops] doing it” is vague and indefinite. What is “it”?

In claim 9, recitation “each pair of said first coil and said second coil” lacks antecedent basis.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-2, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Dhuler (US 5,955,817). Dhuler teaches a thin motor including: movement generator means comprising plural arched-beam, linear motor MEMS actuators 144/146 (Fig.15) on a substrate surface 32 (Fig.1); actuator means 162/166; transferring means comprising rods 148 connecting the MEMS to the actuator means; controller means comprising heaters 38 controlling movement of the arched beam MEMS or movement generators such that each moves and stops at desired positions (c.6, lines 8-10). Alternatively, current applied to the beams is controlled inherently by a controller, thereby providing fine motion control (c.9, lines 24-33).

9. Claims 1 and 3, as best understood, are rejected under 35 U.S.C. 102(e) as being anticipated by Bieg (US 6,463,664). Bieg teaches plural “elemental movement generators”

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comprising “drivers” such as rotating geared motors 32-25 (Fig.11) which may comprise MEMS technology (c.6, lines 33-36) installed on a surface 19; an actuator means or moveable platform 18; force transferring means comprising disks 12-15 which compel smooth linear motion of the platform (abstract); with control means (inherent, c.2, lines 6-8) which electronically synchronize the motors to move and stop the platform as desired.

10. Claims 1-2 and 6, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Dickey et al. (US 5,990,473). Dickey teaches plural “elemental movement generators” comprising MEMS linear motors 104 (Fig.3) installed on a surface 102; an actuator means comprising rack 16; force transferring means comprising gear 106 and linkage 108 which move the rack 116; with control means (inherent) for controlling reciprocating motion of the motors.

11. Claims 1, 2, 5-7 and 9, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Teal (US 4,093,880). Teal teaches plural “elemental movement generators” comprising micro linear actuators (electro-magnet coils 18 and solenoid armatures 28 therein, c.2, lines 44-63) installed on a surface 12 (Fig. 1); an actuator means or rod crank 25; force transferring means comprising disc 35 and connecting rods 38 which transform electrical input into mechanical output (c.3, lines 15+) using timing mechanism 50 to operate the electro-magnets. Solid state switching of the electro-magnets is taught in Fig.8, c.3, lines 60-65, so that the solenoids are pushed and pulled. Regarding claim 6, the pairs of stators are disclosed by Teal’s multiple coils 18, with mover means comprising solenoid armatures 28. Regarding claim 7, the solenoid armatures inherently comprise coils with magnetic cores. Regarding claim 9, the solenoid armature coils move, while the stator coils 18 are fixed.

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 4, 7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dickey as applied to claims 2 and 6 above, further in view of Ghosh et al. (US 6,171,886). Dickey does not teach details of his MEMS linear actuators.

Ghosh teaches MEMS linear actuators including a coil 54a/54b and permanent magnet rod 40. The coils produce a magnetic field which causes reciprocating motion of the rod (abstract).

It would have been obvious to use Ghosh's linear actuator structure in Dickey's apparatus since such MEMS would have been desirable for reciprocating motion.

Regarding claim 10, iron is a well-known permanent magnetic material suitable for use in Ghosh's rod 40.

***Response to Arguments***

14. Applicant's arguments filed 6 August 2003 are not persuasive. Applicant should submit an argument under the heading "Remarks" pointing out disagreements with the examiner's contentions. Applicant must also discuss the references applied against the claims,



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explaining how the claims avoid the references or distinguish from them. Since applicant provided no such arguments with the response (including amendments to the specification and claims) filed 6 August 2003, they are not persuasive.

The examiner further notes that claim 12 has been withdrawn in response to applicant's election of Group I filed November 26, 2002. In this paper, applicant appears to have intended to "delete", i.e. cancel, claim 12.

In summary, claims 1-11 are pending.

### *Conclusion*

15. An examination of this application and claims reveals that applicant is unfamiliar with patent prosecution procedure. While an inventor may prosecute the application, lack of skill in this field usually acts as a liability in affording the maximum protection for the invention disclosed. Applicant is advised to secure the services of a registered patent attorney or agent to prosecute the application, since the value of a patent is largely dependent upon skilled preparation and prosecution. The Office cannot aid in selecting an attorney or agent.

Applicant is advised of the availability of the publication "Attorneys and Agents Registered to Practice Before the U.S. Patent and Trademark Office." This publication is for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

16. This action is a **final rejection** and is intended to close the prosecution of this application. Applicant's reply under 37 CFR 1.113 to this action is limited either to an appeal

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to the Board of Patent Appeals and Interferences or to an amendment complying with the requirements set forth below.

If applicant should desire to appeal any rejection made by the examiner, a Notice of Appeal must be filed within the period for reply identifying the rejected claim or claims appealed. The Notice of Appeal must be accompanied by the required appeal fee of \$330.00 or \$165.00 (small entity, if applicable).

If applicant should desire to file an amendment, entry of a proposed amendment after final rejection cannot be made as a matter of right unless it merely cancels claims or complies with a formal requirement made earlier. Amendments touching the merits of the application which otherwise might not be proper may be admitted upon a showing a good and sufficient reasons why they are necessary and why they were not presented earlier.

A reply under 37 CFR 1.113 to a final rejection must include the appeal from, or cancellation of, each rejected claim. The filing of an amendment after final rejection, whether or not it is entered, does not stop the running of the statutory period for reply to the final rejection unless the examiner holds the claims to be in condition for allowance. Accordingly, if a Notice of Appeal has not been filed properly within the period for reply, or any extension of this period obtained under either 37 CFR 1.136(a) or (b), the application will become abandoned.


17. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 305-7063. The examiner can normally be reached on Monday-Friday, 9 am to 5 pm. The fax phone number is 703-872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.

  
Burton S. Mullins  
Primary Examiner  
Art Unit 2834

bsm  
November 28, 2003